Salmon River Restoration Council

Salmon River Shaded Fuel Break Construction & Riparian Fuels Reduction

JITW 02

Project # 2002-JITW-01
Agreement # 113332J008

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Abstract:

This project has enlisted private property owners from the community to steward their lands over time in a fashion that is consistent with ecosystem management over the larger landscape. The Salmon River Restoration Council (Council) has provided a crew of displaced timber workers from the community to construct fuel break systems, restore damaged riparian and wetlands habitat, reduce road caused erosion problems, and perform project inventory and monitoring tasks on several parcels of private property in the Salmon River subbasin. Restoration activities have taken place on approximately 72 acres. Detailed acreage is in the GIS Report.

Tasks in this project have been performed in consultation with the USF&WS, the USFS, and the Karuk Tribe of California. This collaborative approach should be a major component of a comprehensive fuels reduction program on the Salmon River. This project has expanded community and agency support for the Council and help in the recovery and protection of the Salmon River subbasin.

Introduction:

Program Objectives

A. Modify excessive fuel loading, with a focus on reducing the risk of catastrophic fire at several prioritized parcels of private lands situated in neighborhoods and located in more isolated areas.

B. Identify and release desirable native vegetation in riparian areas and associated buffer zones and in areas associated with fuel breaks where targeted native vegetation is currently being suppressed.

C. Reduce road surface related sediment to the stream through the maintenance of existing and installation of new minimal drainage structures.

D. Continue to identify useful and efficient techniques that SRRC and landowners and managers can use regarding fuels management, erosion control, monitoring and other restoration activities in the Salmon River subbasin.

E. Create new job opportunities for displaced workers who have worked in logging related activities or live in timber dependant communities.

F. Enlist landowners to increase responsible stewarding of their private lands in a manner that is consistent with federal management direction at a landscape level. This participation will foster others in the community to partake in land managing and use activities that are more appropriate.

G. Fireproof concentrations of rural residencies to a condition that requires low maintenance in the future. This approach will reduce the spread of house fires into wildlands and reduce demands for residential protection during catastrophic fires.

Specifically, shaded fuel breaks were designed by thinning out flammable species, removing dead and down fuels and trimming up remaining trees and shrubs. This technique reduces and breaks up fuel continuity and fuel ladder, while maintaining the vegetative cover needed to prevent unwanted growth of flammable brush species. The resulting fuel break is a long lasting solution to vegetation management in this fire-prone area.

Description of Study Area:

The Salmon River is one of the major subbasins of the Klamath River Basin. The 751 sq. mile watershed is entirely within the Klamath National Forest. Four communities lie widely dispersed within this watershed. There are approximately 250 people residing in the drainage. The Salmon River has long been known for its exceptionally high quality waters and high value fisheries as well as boasting one of the richest regions of species diversity in the temperate zones. It is noted to have the largest population of wild Spring Chinook Salmon in California.

The Salmon River watershed is one of the highest risk fire areas on the Klamath National Forest. It has a high natural frequency of lightning occurrence. The success of USFS and CDF fire suppression activities since 1911 has increased the frequency and magnitude of catastrophic fires in the Salmon River subbasin. These large fires characteristically denude riparian and upslope areas, which increases sediment delivery to the main Salmon and increases water temperatures in tributaries, and subsequently into the Salmon and Klamath rivers (USFS Sediment Analysis, 1994). Since 1911 (91 years), 44% of the subbasin has burned. In the last 20 years, 31% of the Salmon River Watershed has burned, or reburned. This indicates a disturbing trend (SRRC analysis of FS data layers).

At present, fuel loading is at an unnaturally high hazard level in many areas of the watershed. This current fuel loading threatens to severely damage the more biologically intact and the recovering landscapes in the subbasin. In our discussions with Salmon River District FS personnel the SRRC has identified the need to use existing roads in a fuel break system. The Karuk Tribe has also stated that, "Fifty years of fire suppression has resulted in an ecosystem with accumulations of flammable debris capable of fueling future catastrophic fires within the watershed." (Karuk Tribal Module for the Main Stem Salmon River Watershed Analysis, Draft, June 25th, 1996). **The fire history and fire potential of this subbasin establish fire as the number one threat to fisheries and general ecosystem health and diversity**.

Methods Used:

Fuels Treatment

Fuels treatment techniques included handpiling and removal of excessive fuels from site. To create a system of shaded fuel breaks on private property, we utilized existing roads, skid trails and ridges. Fuel reduction also took place in buffer zones next to the riparian areas to protect the riparian areas from fire.

Native Vegetation Release

During the fuels treatment activities, individual plants of desired species that are currently suppressed were released.

Noxious Weed Identification and Removal

Remove, when possible, noxious weeds from restoration sites. Species targeted for removal were: star thistle, Scotch broom, Klamath weed, Marlahan mustard, Himalayan blackberries, and bull thistle. Identify Knapweed populations if present and inform trained SRRC staff of location and size of site.

Roads

Chips from project areas were spread on roads and fill slopes to mitigate surface erosion. No waterbars or culvert and ditch cleaning were needed within the project areas.

Monitoring:

All areas on which project activities were performed were mapped using GPS and GIS, thus identifying accurate locations and exact acreage of project areas. Photo-documentation took place at all restoration sites before, during, and after project activities.

Landowner Participation:

Site #1	Liberman	South Russian (Below Rainbow)
Site #2	Villeponteaux	Glasgow
Site #3	Corbett, et al.	Whites Gulch
Site #4	Daniels	Forest Mines
Site #5	Holmes	Eddy Gulch
Site #6	McCord	Whites Gulch
Site #7	Jacques & Brucker	Blue Ridge Ranch

Piles Burned from previous BLM Project

Site #8	Watts	South Russian (Rainbow)
Site #9	Butler Landowner's Association (at Butler Creek)	

Summary of Monitoring Component

Implementation monitoring activities were conducted by SRRC staff during and after project activities. Landowners will perform annual monitoring of project sites for at least 10 years following completion of the project. Photo-point documentation was taken at each site before during and after (at completed sites) from the same point and perspective to assess the project. A sample of these before-and-after pictures is attached in Appendix 1.

Community Outreach/Education Plan

Geographic Information System (GIS) maps and photo displays of JITW project sites will be highlighted in a display at our Salmon River Restoration Council Watershed Center. The center functions as a clearinghouse for watershed restoration information for the community and the general public. Up-to-date information is available on fish populations, habitat conditions, and other aspects of watershed health.

Results:

- Fuels Reduction activities occurred on approximately 55 acres (see GIS) of private land. We utilized existing roads, skid trails, forested areas, and ridges on private property. The working weather was good for burning – we were able to burn all the piles we created.

- We also burned piles created under a BLM funded grant on approximately 22 extra acres.

- Reduction of sediment from roads was accomplished by spreading wood chips from treated areas to stabilize bare slopes.

- Before and after pictures were taken at all of the sites as a monitoring tool (see Appendix 1). One year monitoring pictures have also been taken at most of the past JITW project areas. At some previous JITW project areas, five year monitoring pictures were also taken.

- Crewmembers spent approximately 170 worker days performing the aforementioned Tasks. SRRC staff also spent approximately 227 hours on planning and implementation.

- This project is part of a continuing fuels reduction program – we have gained a wide acceptance and have helped to stimulate the beginning of an interagency Fire Management Strategy. The Council has played a significant role in the creation of the Salmon River Fire Safe Council, in cooperation with the managing agencies, local tribe, local fire and rescue and community members.

Summary and Conclusions:

We were able to meet, and in some cases surpass, all of our objectives under this project. We have increased our landowner base and thus set the stage for further opportunities with the same landowners (on new areas) and landowners who had not previously signed up. We made significant progress in protecting the neighborhoods of South Russian Creek, Whites Gulch, Forest Mines, Glasgow Gulch, Eddy Gulch, Blue Ridge Ranch, and Blue Ridge Ranch from future catastrophic fire. The crew also fine-tuned their techniques for creating and treating fuels generated from the shaded fuel breaks, and we trained a few more local workers in this type of fuel reduction.

In-Kind Contribution:

In-Kind contributions consisted of several categories:

1. Crewmembers travel time. The Crew rode in a "Crummy" to and from the job site on their time. Figure 2 hrs per day average = 340 hours at $13 per hour = $4,420.

2. Salmon River Restoration Council used GPS and GIS equipment to map project. We figured 39 hours was spent mapping locations. Using $12 per hour for GPS use, the value of GPS comes to $468. GIS equipment was used for making ArcInfo coverage and ArcView Project. We figured combined GIS time to be 62 hours at $60 per hour = $3,720. Some staff time was also donated – we estimate 188 Hrs at $16 per hour = $3,008.

3. Landowner participation to date (includes prior JITW follow up work) is estimated to be approximately 1,500 hours at $14 hour = $21,000.

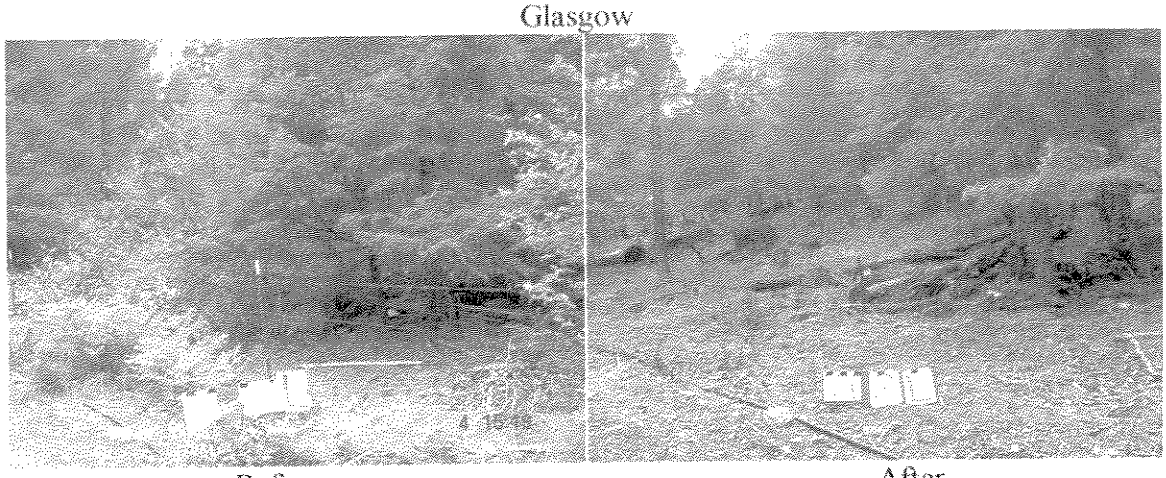
This totals $32,616.00 in In-Kind Contributions to date. Landowners will continue to maintain the project on their properties. We expect the final In-Kind contribution will greatly surpass the original estimate.

APPENDICES:

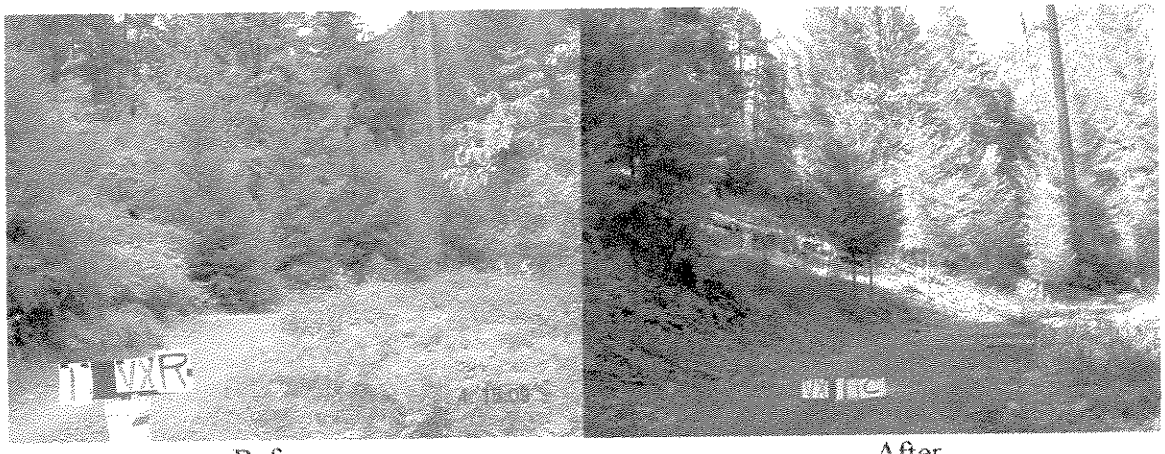
Appendix 1: Before and After Photos
Appendix 2: Project Location Map and site maps

Salmon River Restoration Council
JITW 02 Before & After Pictures

Glasgow

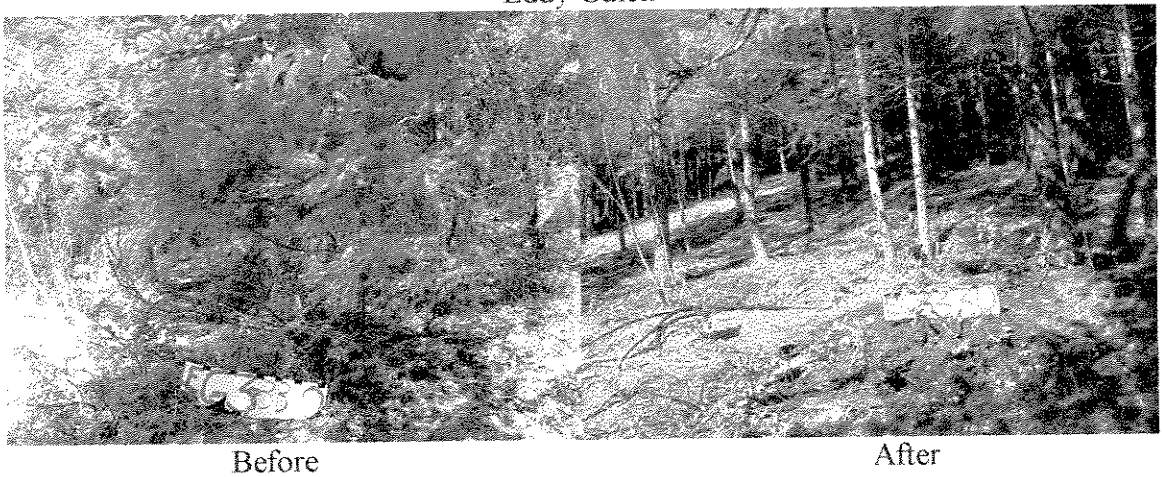


Before | After



Before | After

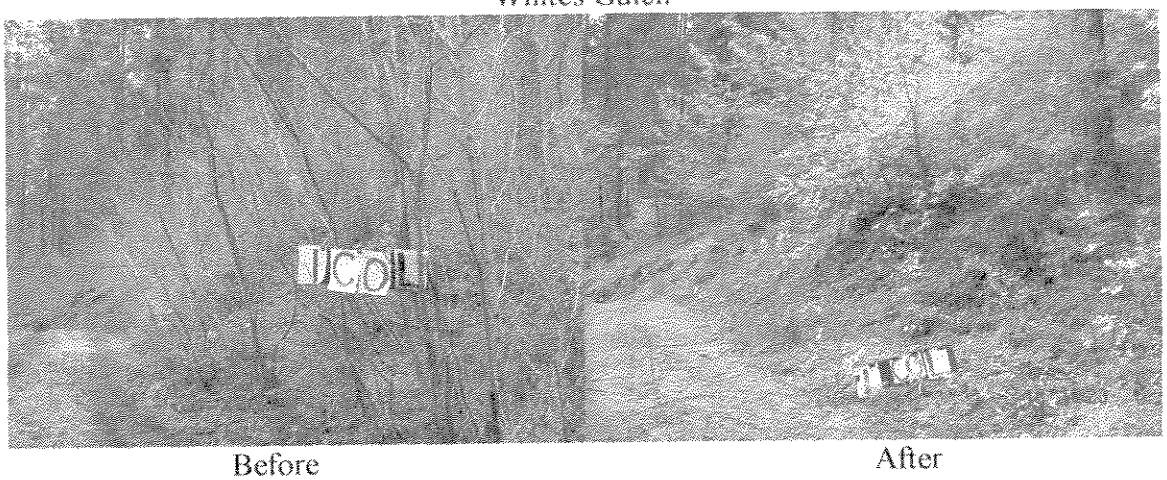
Eddy Gulch



Before | After

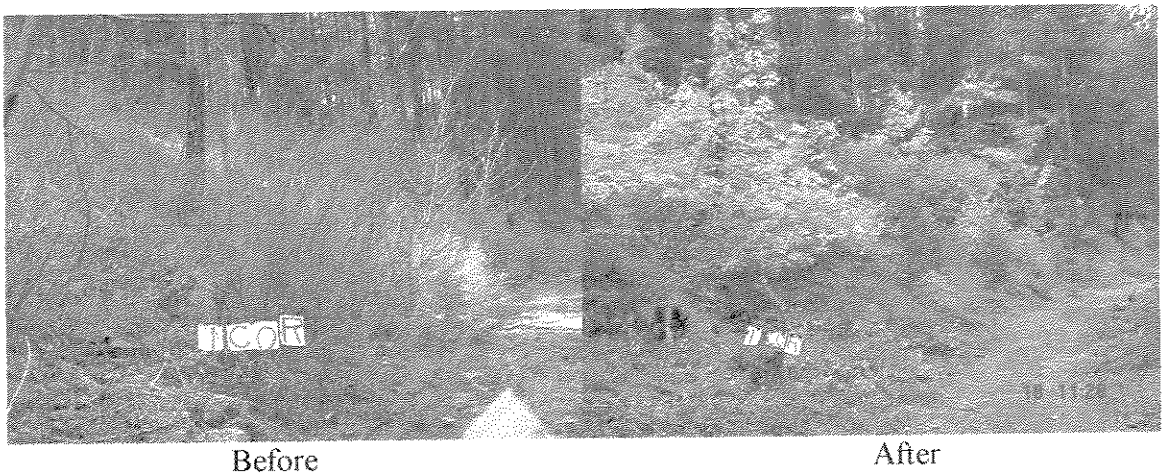
Salmon River Restoration Council
JITW 02 Before & After Pictures

Whites Gulch



Before

After



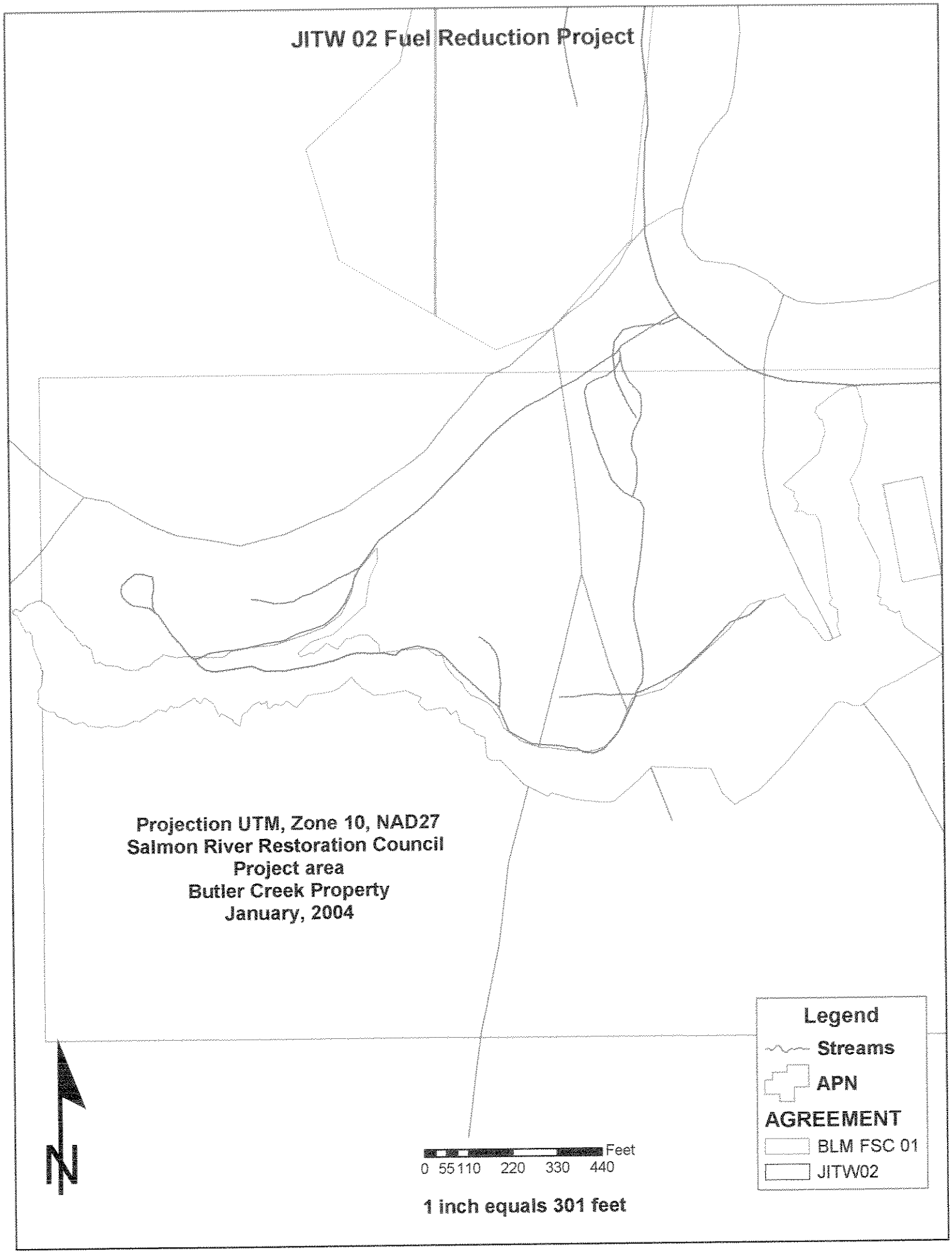
Before

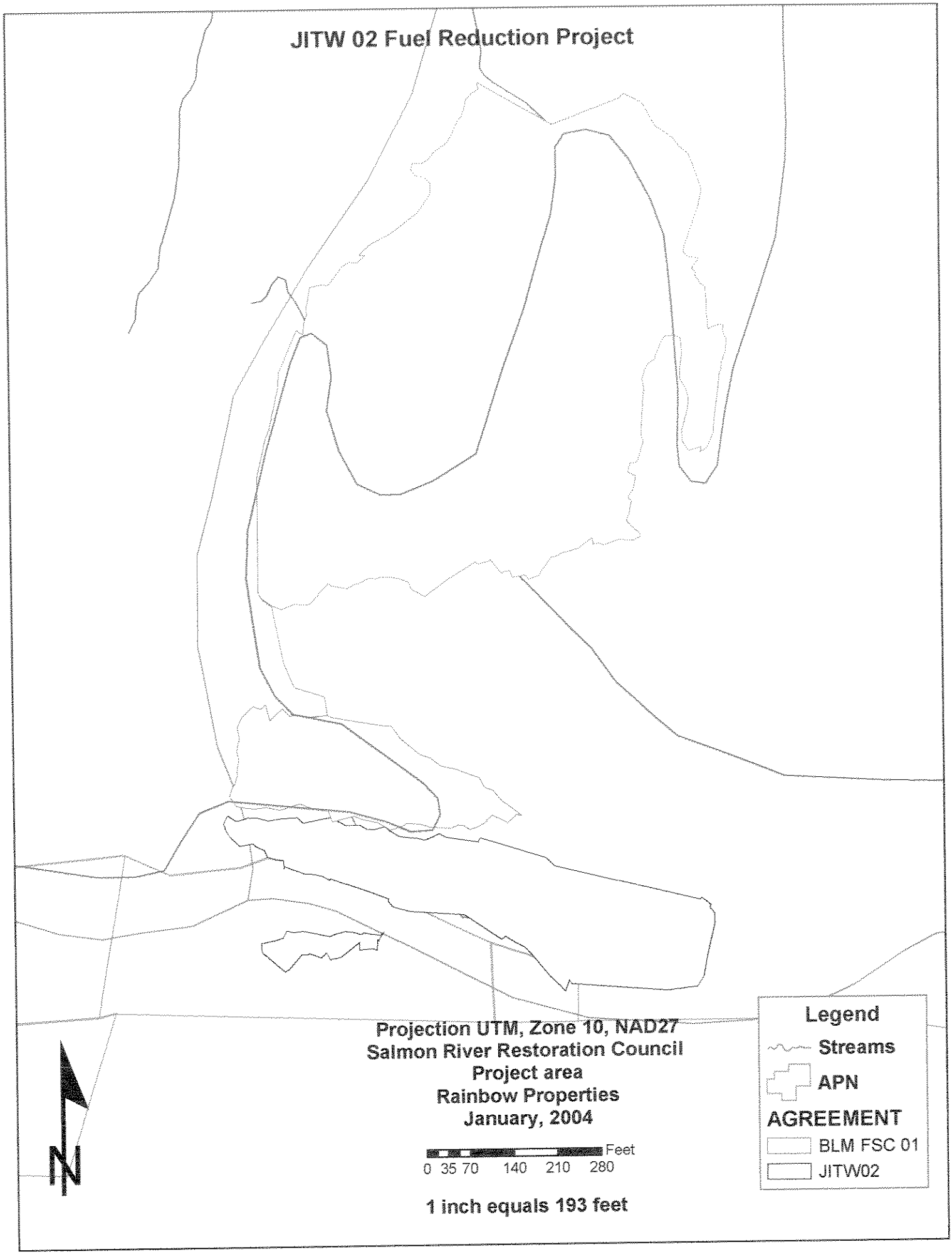
After

Butler Creek

Before

After


JITW 02 Fuel Reduction Project
Projection UTM, Zone 10, NAD27
Salmon River Restoration Council
Project area
Butler Creek Property
January, 2004
Legend
Streams
APN
AGREEMENT
BLM FSC 01
JITW02
N
Feet
0 55 110 220 330 440
1 inch equals 301 feet


JITW 02 Fuel Reduction Project
Projection UTM, Zone 10, NAD27
Salmon River Restoration Council
Project area
Rainbow Properties
January, 2004
Feet
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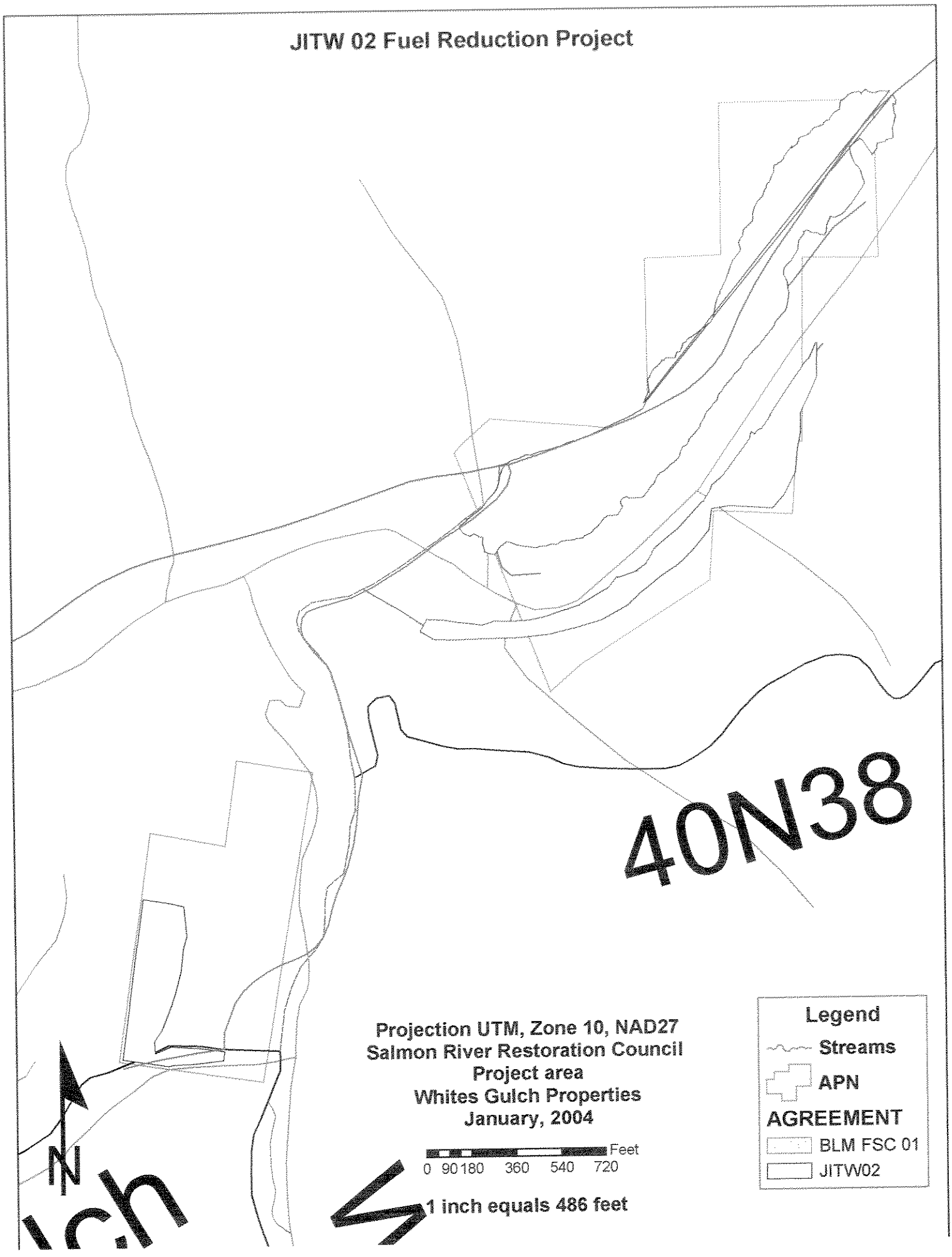
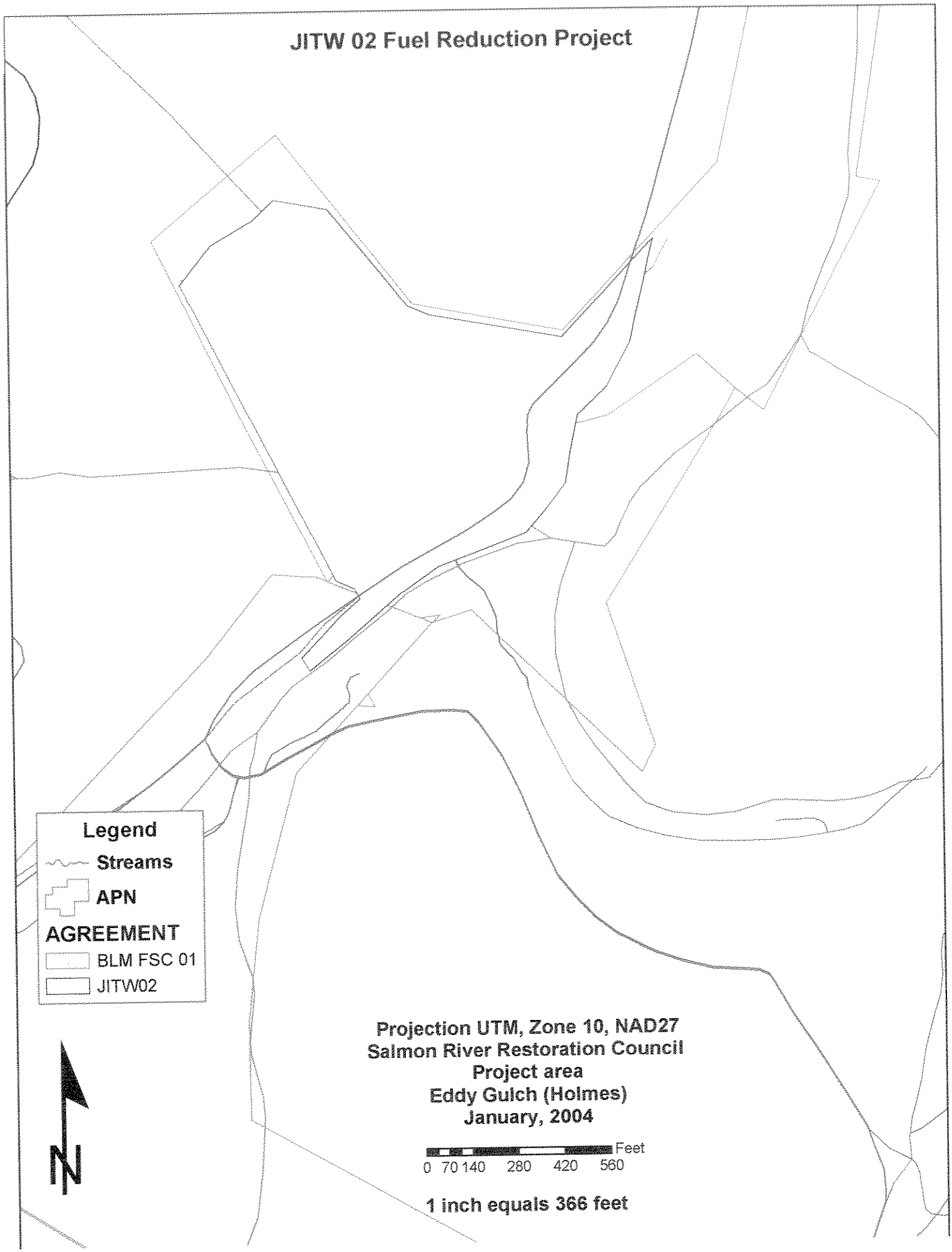
1 inch equals 193 feet
N
Legend
Streams
APN
AGREEMENT
BLM FSC 01
JITW02


JITW 02 Fuel Reduction Project
40N38
Projection UTM, Zone 10, NAD27
Salmon River Restoration Council
Project area
Whites Gulch Properties
January, 2004
Feet
0 90 180 360 540 720
1 inch equals 486 feet
N
Legend
Streams
APN
AGREEMENT
BLM FSC 01
JITW02

JITW 02 Fuel Reduction Project



JITW 02 Fuel Reduction Project